

California Energy Commission

STAFF REPORT

LOCALIZED HEALTH IMPACTS REPORT

For Projects Awarded Funding Through the Alternative and Renewable Fuel and Vehicle Technology Program Under Solicitation PON-14-604 – Advanced Vehicle Technology Manufacturing



CALIFORNIA
ENERGY COMMISSION

Edmund G. Brown Jr., Governor

MARCH 2015

CEC-600-2015-006

CALIFORNIA ENERGY COMMISSION

Patrick Brecht
Primary Author

Darren Nguyen
Project Manager

John P. Butler II
Office Manager
***EMERGING FUELS AND TECHNOLOGIES
OFFICE***

Judith Friedman
Deputy Director
FUELS AND TRANSPORTATION DIVISION

Robert P. Oglesby
Executive Director

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ABSTRACT

Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP). This statute, amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to “develop and deploy innovative technologies that transform California’s fuel and vehicle types to help attain the state’s climate change policies.” Assembly Bill 8 (Perea, Chapter 401, Statutes of 2013) reauthorizes the ARFVTP through January 1, 2024.

AB 118 also directs the California Air Resources Board (ARB) to develop guidelines to ensure air quality improvements. The ARB Air Quality Improvement Program (AQIP) Guidelines, approved in 2008, are published in the *California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1, AB 118 Air Quality Guidelines for the Alternative and Renewable Fuel and Vehicle Technology Program and the AQIP*. The AQIP Guidelines require the Energy Commission, as the funding agency, to analyze the localized health impacts of ARFVTP-funded projects that require a permit (13 CCR § 2343). As provided by 13 CCR § 2343, this *Localized Health Impacts Report* is required to be available for public comment for 30 days prior to the approval of projects.

This *Localized Health Impacts Report* analyzes the combined impacts in the communities, including exposure to air contaminants or localized air contaminants, or both, and including, but not limited to, communities of minority populations or low-income populations, as declared by the advanced vehicle technology manufacturing project proposers or as determined by Energy Commission staff. Appendix A, Localized Health Impact Report Assessment Method, describes the analysis used for this *Localized Health Impacts Report*.

Keywords: Air pollution, Air quality, Air Quality Improvement Program (AQIP), California Air Resources Board (ARB), alternative fuel, Assembly Bill (AB) 118, California Environmental Quality Act (CEQA), criteria emissions, demographics, environmental justice (EJ) indicators, Environmental Justice Screening Method (EJSM), greenhouse gas emissions (GHG), manufacturing

Please use the following citation for this report:

Brecht, Patrick. 2015. *Localized Health Impacts Report*. California Energy Commission, Fuels and Transportation Division. Publication Number: CEC-600-2015-006.

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EXECUTIVE SUMMARY

Under the *California Code of Regulations Title 13, (CCR § 2343)*, this *Localized Health Impacts Report* describes the alternative fuel infrastructure projects proposed for Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP) funding that may or may not require a conditional or discretionary permit or environmental review, such as conditional use permits, air quality permits, wastewater permits, hazardous waste disposal permits, and other land-use entitlements. This report does not include a project that requires only residential building permits, mechanical/electrical permits, or fire/workplace safety permits, as these are determined to have no likely impact on the environment.

The California Energy Commission is required to assess the localized health impacts of the projects proposed for ARFVTP funding. This *Localized Health Impacts Report* focuses on the potential impacts a project may or may not have on a particular community, particularly those communities that are considered especially vulnerable to emissions increases. For high-risk communities, this report assesses the impacts from criteria emissions/air toxics and the air quality attainment status.

Environmental justice communities, low-income communities, and minority communities are considered to be the most impacted by any project that could result in increased criteria and toxic air pollutants within an area because these communities typically have the most significant exposure to the emissions. Assessing projects and the communities surrounding them is important because of the health risks associated with these pollutants. Preventing health issues from air pollution in any community is important, but it is especially important to minimize any negative impacts in communities that are already considered to be at risk due to their continued exposure to these contaminants.

The project in this *Localized Health Impacts Report* is assessed for potential health impacts for the communities in which it will be located. Based on this analysis, it is not anticipated that implementation of this project will have negative impacts because there will not be a net increase in criteria and toxic emissions, specifically in those communities that are considered most vulnerable. Potentially, the project stands to provide improved quality of life through cleaner air.

CHAPTER 1:

Projects Proposed for Funding

On September 5, 2014, the California Energy Commission released a competitive Grant Solicitation PON-14-604, titled “Advanced Vehicle Technology Manufacturing” under the Alternative and Renewable Fuel Vehicle Technology Program (ARFVTP). This grant solicitation was an offer to fund projects that develop advanced technology manufacturing facilities in California that produce zero-, near zero-emission vehicles, or zero-emission vehicle components.

On February 25, 2015, the California Energy Commission posted the Notice of Proposed Awards (NOPA) for PON-14-604., resulting in four projects proposed for funding. This *Localized Health Impact Report* assesses and reports on the potential localized health impacts of the proposed projects with public review and comment for a 30-day period.

This chapter summarizes the projects proposed for California Energy Commission funding. Table 1 provides the company, project name, project address, and environmental justice indicators. (See Appendix A.)

Table 1: Proposed Projects With Environmental Justice (EJ) Indicators
Listed in the Order of the Notice for Proposed Awards (NOPA) for PON-14-604, Advanced Vehicle Manufacturing

Applicant	Project Name	Project Address	EJ Indicator(s)
Proterra Inc.	“California Zero Emission Transit Bus Manufacturing Project”	383 South Cheryl Lane, City of Industry, California 91789	Minority and Unemployment
Transportation Power, Inc.	“Heavy-Duty Electric Vehicle Manufacturing Initiative”	13000 Danielson Street, Poway, California 92064	None
Efficient Drivetrains Inc.	“EDI Advanced Vehicle Manufacturing Facility”	1181 Cadillac Court, Milpitas, California 95035	Minority
Zero Motorcycles, Inc.	“California Manufacturing Acceleration for Electric Motorcycles”	Site 1: 360 El Pueblo Road, Scotts Valley, California 95066 Site 2: 380 El Pueblo Road, Scotts Valley, California 95066	None

Source: California Energy Commission staff analysis

Proterra Incorporated

California Zero Emission Public Transit Bus Manufacturing Project

This project site will be located at 383 S. Cheryl Lane, City of Industry, California 91789 in an existing facility. This project will develop and expand the manufacturing line for Proterra's battery, all-electric, zero-emission public transit buses. The site is in an industrial area zoned for both industrial and manufacturing uses; it is surrounded by manufacturing and industrial facilities. There are seven schools, four day care facilities, and two health care facilities within one mile of the project site.

OUTREACH: Proterra will work with the San Gabriel Valley Chamber of Commerce to conduct outreach sessions that describe the project and the environmental and economic benefits for the San Gabriel Valley and beyond. They will meet with local, regional, state, and other government agencies and local leaders to keep them informed of the benefits of zero-emission-vehicle (ZEV) technologies and to offer state-of-the-art transit solutions for communities throughout California.

Proterra will also reach out to public transit agencies in California and throughout the nation to educate the agencies on the economic, environmental, and performance advantages of zero-emission public transit buses. This manufacturing project site will not have a significant impact on the environment. See Table 3 for the environmental benefits of the project.

Transportation Power, Incorporated

Heavy-Duty Electric Vehicle Manufacturing Initiative

This project site will be located at 13000 Danielson Street, Poway, California 92064, which is a commercially zoned area of the Poway Technology Park. Commercial buildings surround the lot. This project will advance the manufacture of a new generation of electric vehicle (EV) components designed for use by Class 8 trucks and other heavy-duty (HD) vehicles. Any schools or day care facilities are located farther from one mile from the project site. The site is located within one mile of two health care facilities.

OUTREACH: Transportation Power will carry out a number of forms of customer and stakeholder outreach. These efforts will be expanded as the company progresses toward full-scale commercialization of this HD manufacturing initiative. Participation in trade shows, maintenance of an outreach website, and direct outreach to major trucking fleets and other customers will be part of the outreach. This manufacturing project site will not have a significant impact on the environment. See Table 3 for the environmental benefits.

Efficient Drivetrains Incorporated (EDI)

EDI Advanced Vehicle Technology Manufacturing Facility

This project will be located at 1181 Cadillac Court, Milpitas, California 95035. EDI will manufacture advanced vehicle technologies for use in hybrids, plug-in hybrid vehicles (PHEVs), and EVs in the facility. This project will be located within one mile of three schools, three day care facilities, and three health care facilities. The increase in traffic to the facility will be for the employee commute and delivery of components; this increase will be negligible.

OUTREACH: EDI will conduct outreach activities focused on the value of advanced vehicle technologies to the immediate community. This manufacturing project site will not have a significant impact on the environment.

Zero Motorcycles, Incorporated

California Manufacturing Acceleration for Electric Motorcycles

This project will be located at two sites: (i.) a multiuse warehouse/fabrication plant/laboratory and office facility at 360 El Pueblo Road, Scotts Valley, California, 95066 and (ii.), a second, similar facility located at 380 El Pueblo Road, Scotts Valley, California 95066. This project will expand full electric motorcycle production capacity through several model-year cycles. It will also redesign manufacturing line improvements. The sites are within 500 yards of a state highway and are not located within any residential area. The project will be located within one mile of three schools, five day care facilities, and three health care facilities.

OUTREACH: Zero Motorcycles will conduct outreach to the community about its expansion of underused industrial sites and revitalization of such spaces. This project will become an example of the City of Scotts Valley's larger "intended reuse" project for industrial lands using green technology manufacturing. Zero Motorcycles will publicize the city's ongoing efforts to create green employment and reach out to local stakeholders through periodic updates to the city council. The two project sites will not have a significant impact on the environment. See Table 3 for the environmental benefits.

CHAPTER 2: Approach

The Localized Health Impact Report Assessment Method in Appendix A assesses communities potentially impacted by air pollution and possibly benefitted by the manufacture of zero- and near-zero-emission vehicles, and zero-emission vehicle components. The California Air Resources Board's (ARB) *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution for Assembly Bill (AB) 32 Assessments* is also used to integrate data to identify low-income communities that are highly impacted by air pollution.¹ Other resources used in this assessment are the *California Infrastructure State Implementation Plans*,² which contains publicly noticed air quality attainment plans, and the *Green Book Nonattainment Areas for Criteria Pollutants*³.

For this *LHI Report*, the Energy Commission interprets “permits” to connote discretionary and conditional use permits because they require a review of potential impacts to a community and the environment before issuance. Advanced manufacturing has the potential of requiring permits. For air permits, local air districts conduct a New Source Review (NSR) to determine emission impacts. Since ministerial-level permits, such as building permits, do not assess public health-related pollutants, the Energy Commission staff does not assess projects requiring only ministerial level permits in this report.

All the communities in which these manufacturing projects are planned: City of Industry, Milpitas, Poway, and Scotts Valley are in nonattainment zones for ozone, PM 2.5, and PM 10. Table 1 shows the EJ indicators for the four locations, that is, minority populations, low incomes, and highly sensitive groups based on age (individuals younger than 5 years of age and older than 65 years of age). Table 2 shows the demographics. Poway and Scotts Valley have no EJ indicators and are not “at-risk communities.” The high-risk communities, according to the Environmental Justice Screening Method (EJSM), are City of Industry and Milpitas.

1 California Air Resources Board, *Proposed Screening Method for Low-Income Communities Highly Impacted by Air Pollution*, 2010 (Sacramento, California).

2 <http://www.arb.ca.gov/planning/sip/sip.htm>.

3 <http://www.epa.gov/oaqps001/greenbk>.

CHAPTER 3:

Summary

The Energy Commission expects a net benefit to California with the manufacture, distribution, and use of advanced zero-, near zero-emission vehicles, and zero-emission vehicles that will result in cleaner air when the vehicle components and the vehicles produced in these manufacturing facilities are fabricated and produced.

CHAPTER 4:

Acronyms

Air Quality Improvement Program (AQIP)

Air Resources Board (ARB)

Alternative and Renewable Fuel and Vehicle Technology Program (ARFVTP)

Assembly Bill (AB)

California Code of Regulations (CCR)

California Environmental Quality Act (CEQA)

Carbon dioxide (CO₂)

Compressed natural gas (CNG)

Electric vehicle (EV)

Environmental justice (EJ)

Environmental justice screening method (EJSM)

Gasoline gallon equivalent (GGE)

Greenhouse gas (GHG)

Localized health impact (LHI)

New Source Review (NSR)

Notice of Proposed Awards (NOPA)

Particulate matter (PM)

Plug-in hybrid electric vehicle (PHEV)

Program Opportunity Notice (PON)

Table 2: Environmental Justice (EJ) Indicators Compared With California
Yellow highlighted areas indicate numbers (percentages) that meet the definition for EJ indicators.

	Number of EJ Indicators	Below Poverty Level (2008-2012)	Black Persons (2010)	American Indian and/or Alaska Native (2010)	Asian and/or Pacific Islander (2010)	Persons of Hispanic or Latino Origin (2010)	Persons Under 5 Years of Age (2010)	Persons Over 65 Years of Age (2010)	Unemployment Rate (December 2014)
California		15.3	6.2	1.0	13.0	37.6	6.8	11.4	6.7
			>30	>30	>30	>30			
City of Industry	2	3.4	0.5	0.0	8.2	52.5	4.1	10.0	13.6
Milpitas	1	7.2	2.9	0.5	62.2	16.8	6.9	9.5	4.6
Poway	None	5.3	1.6	.06	10.2	15.7	5.1	12.3	3.0
Scotts Valley	None	3.2	0.9	0.5	5.1	10.0	5.4	13.6	3.9

Sources: Unemployment information from the State of California, Employee Development Department (EDD) Labor Market Information Division: <http://www.labormarketinfo.edd.ca.gov/Content.asp?pageid=133> and [Age / ethnicity demographics, U.S. Department of Census: http://quickfacts.census.gov](http://www.census.gov/hhes/ethnicity/race/ethnicity.html).

Table 3: Environmental Benefits of the Four Projects

Applicant	Vehicle Type	Fuel Type	Vehicle Class	Annual Vehicle Production	Annual Mileage per Vehicle	Conventional Fuel miles per gallon (MPG)	Alternative Fuel Vehicle MPG	Petroleum Displacement (Gallons per Year)	GHG Reduction (Metric Tons per Year)
Proterra	Buses	CNG	HD	140	40,000	5	21 CNG mpg	1,120,000	72,080
Transportation Power, Inc.	Trucks	Electric	HD-Class 8	100	25,000	5	100 miles, displacing 20 gallons of diesel	500,000	147,500
Efficient Drive-trains, Inc.	Trucks	CNG-PHEV	MD-Class 4 and 6	2000	30,000	9	CNG: 12.7mpg and Electric: 26.9mpg	6,666,667	27,434
Zero Motorcycles, Inc.	Motorcycles	Electric	LD-Class 1, Passenger Vehicle	4,000	3,195	44	180 electric miles per charge	290,455	13,865
Total								8,577,121	260,879

Source: Data is from assumptions made by Project Recipients for the Benefits Calculations*

APPENDIX A:

Localized Health Impact Report Assessment Method

Based on the Energy Commission's interpretation of the AQIP Guidelines, this *LHI Report* assesses the potential impacts to communities as a result of the projects proposed by the ARFVTP. This report is prepared under the *California ARB AQIP Guidelines, California Code of Regulations, Title 13, Motor Vehicles, Chapter 8.1 (CCR § 2343)*:

“(6) Localized health impacts must be considered when selecting projects for funding. The funding agency must consider environmental justice consistent with state law and complete the following:

(A) For each fiscal year, the funding agency must publish a staff report for review and comment by the public at least 30 calendar days prior to approval of projects. The report must analyze the aggregate locations of the funded projects, analyze the impacts in communities with the most significant exposure to air contaminants or localized air contaminants, or both, including, but not limited to, communities of minority populations or low-income populations, and identify agency outreach to community groups and other affected stakeholders.

(B) Projects must be selected and approved for funding in a publicly noticed meeting.”

This *LHI Report* is not intended to be a detailed environmental health impact analysis of proposed projects nor is it intended to substitute for the environmental review conducted during the California Environmental Quality Act (CEQA) review process. This *LHI Report* includes staff application of the Environmental Justice Screening Method (EJSM) to identify projects located in areas with social vulnerability indicators and the greatest exposure to air pollution and associated health risks.⁴

The EJSM was developed to identify low-income communities highly affected by air pollution for assessing the impacts of climate change regulations, specifically Assembly Bill 32 (Núñez, Chapter 488, Statutes of 2006), the California Global Warming Solutions Act of 2006. The EJSM integrates data on (i.) exposure to air pollution, (ii.) cancer risk, (iii.) ozone concentration, (iv.) frequency of high ozone days, (v.) race/ethnicity, (vi.) poverty level, (vii.) home ownership, (viii.) median household value, (ix.) educational attainment, and (x.) sensitive populations (populations under 5 years of age or over 65 years of age).

4 California Air Resources Board (ARB). *Air Pollution and Environmental Justice, Integrating Indicators of Cumulative Impact and Socio-Economic Vulnerability Into Regulatory Decision-Making*, 2010. (Sacramento, California) Contract authors: Manuel Pastor Jr., Ph.D., Rachel Morello-Frosch, Ph.D., and James Sadd, Ph.D.

To determine high risk communities, environmental justice (EJ) indicators for locations of the manufacturing facilities are compared to data from the U.S. Department of Census or other public agency. Staff identifies high-risk communities by using a two-part standard. For a community to be considered high risk, for this assessment, it must meet both Parts 1 and 2 of this standard.

Part 1:

- Communities located in nonattainment air basins for ozone, PM 10 or PM 2.5

Part 2:

- Communities having one or more of the following EJ indicators: (1) minority, (2) poverty, (3) unemployment; and/or (4) high percentage of population under 5 years of age and over 65 years of age. The EJ indicators follow:
 - A minority subset represents more than 30 percent of a given city's population. [MINORITY]
 - A city's poverty level exceeds California's poverty level. [POVERTY]
 - A city's unemployment rate exceeds California's unemployment rate. [UNEMPLOYMENT]
 - The percentage of people living in that city are younger than 5 years of age or older than 65 years of age is 20 percent higher than the average percentage of persons under 5 years of age or over 65 years of age for all of California. [SENSITIVE POPULATIONS – AGE]